

## CLAIMS

- [1] A method for coloring a cellulose fiber, comprising:
  - a step (1) of introducing a carboxylic group or a sulfonic acid group into cellulose fiber; and a step (2) of treating the cellulose fiber having the carboxylic group or the sulfonic acid group introduced with an aromatic derivative having one or more hydroxyl groups and a metal salt simultaneously or separately.
- [2] The method for coloring a cellulose fiber according to claim 1, wherein carboxylic groups are introduced into the cellulose fiber by an adhesion curing treatment with a polycarboxylic acid.
- [3] The method for coloring a cellulose fiber according to claim 1 or 2, wherein the aromatic derivative having one or more hydroxyl groups is dihydroxybenzoic acid, dihydroxybenzaldehyde, trihydroxybenzoic acid, trihydroxybenzaldehyde, or tannic acid.
- [4] The method for coloring a cellulose fiber according to any one of claims 1 to 3, wherein the metal salt is an iron salt.
- [5] A colored cellulose fiber, colored by the method according to any one of claims 1 or 4.
- [6] A method for producing a colored cellulose fiber, comprising:

a step (1) of introducing a carboxylic group or a sulfonic acid group into a cellulose fiber; and

a step (2) of treating the cellulose fiber having the carboxylic group or the sulfonic acid group introduced with an aromatic derivative having one or more hydroxyl groups and a metal salt simultaneously or separately.

[7] The method for producing a colored cellulose fiber according to claim 6, wherein carboxylic groups are introduced into the cellulose fiber by an adhesion curing treatment with a polycarboxylic acid.

[8] The method for producing a colored cellulose fiber according to claim 6 or claim 7, wherein the aromatic derivative having one or more hydroxyl groups is dihydroxybenzoic acid, dihydroxybenzaldehyde, trihydroxybenzoic acid, trihydroxybenzaldehyde, or tannic acid.

[9] The method for producing a colored cellulose fiber according to any one of claims 6 to 8, wherein the metal salt is an iron salt.

[10] A colored cellulose fiber, produced by the method according to any one of claims 6 to 9.